

IN THE BRIEF DESCRIPTION OF DRAWINGS

Please replace paragraphs 31 and 32 in page 8 with the amended paragraphs below:

[0031] Figure 7 is a flowing diagram illustrating selective incorporation of additional DCC bytes for management communication according to embodiments of the present invention.

[0032] Figure 8 illustrates a multi-ring network architecture that selectively incorporates additional DCC bytes for management communication, according to embodiments of the present invention.

IN THE DESCRIPTION

Please replace paragraph 41 in page 10 with the amended paragraph below:

[0041] By way of example, one exemplary embodiment has: 1) 12 multipurpose slots for line cards, 2) each of these multipurpose slots is connected to the cross-connect 214 with OC-48 worth of bandwidth; and 3) the cross-connect 214 can handle 576 x 576 STS-1s in a completely nonblocking fashion. While various techniques can be used to implement the cross-connect 214, one exemplary implementation is described in the U.S.

Nonprovisional Patent Application entitled "A Cross-Connect with Shared Storage", ~~Serial No. 09/752,649~~ U.S. Patent No. 6,888,825, filed December 29, 2000. While this exemplary embodiment is described with respect to OC-48, alternative embodiments could support a different amount of bandwidth connection between the cross-connect and each of the multipurpose slots, a different number of slots, and/or a less powerful cross-connect.

REMARKS

Applicant appreciates and thanks the Examiner for his meticulousness and suggestions for correcting the informalities in the claims. Applicant further thanks the Examiner for allowance of claims 35, 36 and 39-59 and his conditional allowances for 37, 38, and 60-67. Applicant submits that claims 37, 38 and 60-67 have been amended and re-written in a form that have overcome the rejections under 35 U.S.C. §112 and is now allowable.

Claims

Claims 1-81 remain in the application. Claims 13, 15, 17, 21, 25, 35, 37, 38, 43, 44, 47 and 60 have been amended. No claims have been canceled. No claims have been added.

Claims 15, 25, 35, and 47 are objected to because of various informalities. The informalities are acknowledged and the claims have been amended to reflect the corrections made. In claim 15, "claim13" is amended to "claim 13"; in claim 25, "ring" is amended to "rings"; in claim 35, a "colon" is added after "comprising" and "ones" is inserted per Office Action's recommendation to be more precise; and in claim 47, a "colon" is added after "comprising", the word "or" is replaced with "of" after "set", the word "a" is removed between "more" and "network", and "ones" is inserted per Office Action's recommendation to be more precise. The typographical and/or punctuation amendment(s) made in each of the above claims are non-narrowing limitations already inherently present in the claim.

Claims 17, 37, 38 and 60 have been rejected as being indefinite under 35 U.S.C. §112 for insufficient antecedent basis for the limitations in the claims. The claims have been amended to reflect the corrections made. In claim 17, "class" is replaced with "structure"; in claims 37 and 38, "said TDM collector ring" is replaced by "said ring"; and in claim 60, "said single network element" is replaced with "said network element".

The amendments made in the aforementioned claims aim to clarify and correct for insufficient antecedent basis and are non-narrowing limitations.

Claims 43 and 44 have been amended to replace “network trunk” with “ring” to correct for insufficient antecedent basis in those claims.

Figures

Figure 4 was objected to because of the typographical error of “greather” instead of “greater”. The typographical error has been corrected in the amended Figure 4.

Figures 1 and 3 were amended to correct the typographical error of “premesis” to “premise” in referencing features 100A to 100K and 300A to 300K respectively. Support for this amendment can be found at least at paragraphs 47 – 53 on pages 12 – 13.

Figures 5A to 5C were amended to enlarge the size of the font appearing in the figures and to remove all the shadows and shading previously appearing in the figures.

Figures 7 and 8 were amended to enlarge the size of the font appearing in the figures.

All other Figures appearing on the immediate prior version of the drawing sheets are attached herein. No new figures are added and no figures are cancelled.

Specification

The abstract was objected to because of the typographical error of “very” instead of “every”. The error has been corrected as requested.

The “Brief Description of the Drawings” was objected to because the description of Figures 7 and 8 were missing in paragraph 31-32. The missing descriptions have been corrected as requested and support can be found at page 23, paragraph 90 and page 24, paragraph 95 respectively.

The description in paragraph 41, page 10 was objected to because the "Serial No. 09/752,649" should be replaced with "U.S. Patent No. 6,888,825". The replacement has been made as requested.

Claims 1-23 and 28-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Elliott et al. (U.S. Patent No. 6,587,470).

Independent claim 1:

Independent claim 1 includes the elements "a single network element including, a full TDM cross-connect coupled to every line card slot in said single network element with the same amount of bandwidth connection, wherein said full TDM cross-connect is programmable on an STS-1 basis, and a multiple ring unit to simultaneously support multiple TDM rings." (Emphasis added)

Elliot discloses a flexible cross-connect with a data plane based on use of interface cards which are inserted into card slots connecting to a backplane which provides point-to-point connectivity between each card and centralized cross-connect and timing, communications, and control units. Elliot describes of a cross-connect connected to both high speed and low speed interface subsystems in connections of different speeds (Col. 6, lines 7-16) whereas multiple network interfaces within each of the high and low speed subsystems having a same or different speeds (Col. 6, lines 17-25). This is further illustrated in Fig. 2 with distinct high speed connections 230 and low speed connections 240 to the high and low speed subsystems, while the multiple network interface 202 within both the high and low speed subsystems may have a same or different speed. On the contrary, Applicant's claim includes the element of "a full TDM cross-connect coupled to every line card slot in said single network element with the same amount of bandwidth connection". Applicant's claim element specifically refers to a cross-connect

coupled to every line card slot with each connection having a same bandwidth between each of the multipurpose slots and the cross-connect. This is supported by the specification "each of the multipurpose slots 213A-213R is connected to the cross-connect 214 with the same amount of high-speed bandwidth. Thus, there is no differentiation between high speed and low speed slots for rings and linear connections, respectively." (page 9, paragraph 38). Applicant's claim of "a full cross-connect coupled to every line card slot in said single network element with the same amount of bandwidth connection" is clearly distinct from Elliot which shows a cross-connect 120 connected to systems of different speeds (high speed system 200 and low speed system 220) and at different speeds (high-speed connections 230 and low-speed connections). As such, Applicant's claim is not anticipated by Elliot under 35 U.S.C. 102(e).

Independent claim 13:

Amended independent claim 13 includes the element of "... a plurality of slots to be coupled to optical fiber of multiple TDM rings through line cards installed in said slots, wherein one of said multiple TDM rings is a TDM access ring coupled to customer premise equipment." (Emphasis added).

The amendment to claim 13 includes a limitation similar to that in claim 60 which was indicated by the Office Action (06/13/05, page 15) to be allowable over Elliot. As such, Applicant submits that claim 13 is also distinguishing for this reason.

Independent claim 21:

Amended independent claim 21 includes the element of "... a plurality of line cards, wherein optical fiber from two different rings is directly coupled to said network element through one or more of said plurality of line cards, wherein one of said rings

include other network elements which are coupled to customer premise equipment by TDM access rings; ...” (Emphasis added).

Claim 27, which depended from claim 26 and claim 21, was objected to as being allowable if re-written in an independent form. Amended claim 21 now incorporates elements of dependent claims 26 and 27, now cancelled. Thus, Applicant submits that amended claim 21 is now in an allowable form.

Dependent Claims 2-12, 14-20, 22-23, and 28-34:

Claims 2-12, 14-20, 22-23, and 28-34 depend from claims 1, 13 and 21. For at least this reason, they are allowable over Elliot.

Claims 24-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliott et al. (U.S. Patent No. 6,587,470) in view of Ben-Zur et al. (U.S. 6,754,174)

Dependent claims 24-26

Dependent claims 24-26 depend from independent claim 21. Claim 26 is now cancelled. Ben-Zur describes an interface for communications among network elements of at least one network which comprises at least one of each of a transmitter, a receiver, a processor and a backplane, coupled among the network elements. Ben-Zur fails to cure the deficiencies of Elliot. As such, the combination of Elliot and Ben-Zur fails to teach the elements in claims 24-25. Thus, Applicant respectfully submits that claims 24-25 are patentable over Elliot and Ben-Zur.

Allowable Subject Matter

Claim 27, depending from claims 26 and 21, was objected to but would be allowable if rewritten in dependent form including all of the limitations of the base claim and any intervening claims. Claim 21 now incorporates the limitations of claims 26 and 27 and should now be allowable.

The informalities objected to in independent claims 35 and 47 have now been corrected. Applicant submits that amended independent claims 35 and 47 are now in an allowable form. Claims 36, 39-46 and 48-59 depend from claims 35 and 47. As such, Applicant submits that according to the Office Action (dated 6/13/05, p. 14), claims 35, 36, and 39-59 are now allowable.

Claims 37, 38 and 60 have been amended to overcome the rejections based on 35 U.S.C. §112. Applicant submits that amended claims 37, 38 and 60 have overcome the problem of insufficient antecedent basis under 35 U.S.C. §112. Claims 37, 38 and 61 – 67 depend from independent claims 35 and 60. Therefore Applicant submits that per Office Action (dated 6/13/05, p. 14), claims 37, 38 and 60 – 67 are now also allowable.

CONCLUSION

Applicant respectfully submits that the rejections have been overcome by the remarks, and that the Claims are in condition for allowance. Accordingly, Applicant respectfully requests the rejections be withdrawn and the Claims be allowed.

Invitation for a telephone interview

The Examiner is invited to call the undersigned at 408-720-8300 if there remains any issue with allowance of this case.

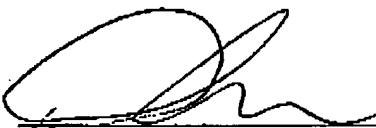
Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: September 13, 2005



Daniel M. De Vos
Reg. No. 37,813

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025-1026
(408) 720-8300